

Chapter



Organizing and Delivering Reference and Information Services

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INTRODUCTION

The commercial bookstore's amiable atmosphere, customer focus, and ease of use is an instructive model for the design of the reference service experience.¹ Bookstores are seen by many as a more desirable place to gather or study, with comfortable chairs, a relaxed atmosphere, and the added perk of an endless supply of caffeine. This competition served as a wake-up call to many librarians, who have refashioned their libraries as welcoming institutions with comfortable ambience and renewed interest in the total library experience. For users who need information more than they need caffeine and conversation, however, libraries are distinctively different from bookstores and cafés.

Libraries not only provide access to books and Internet connections (and maybe even coffee and comfortable chairs) but also offer a critical additional service: reference assistance. From a one-room library to the Library of Congress, an enduring value of the profession since the 19th century has been providing assistance to readers, not just collections, computers, and space.

Contemporary reference service takes place anywhere the library exists, from the library's Web presence to the in-person experience. Reference service has traditionally been available in a reference room, or an otherwise designated area in the library, at a desk staffed by librarians. Now, networked databases and e-resources, not to mention Google, Bing, and other free search services such as *Wikipedia*, have reduced dependence on the reference room as the place where library research begins.

Mobile software applications deliver information directly to the user's smart phone; there are a number of freely available iPhone apps that have reengineered what would have been considered traditional reference tools: dictionaries and encyclopedias, among a few examples. Many users begin (and often end) their research by using the Internet. Today's challenge is to ensure that reference services remain

relevant in a wired world and to provide this service not only within the library, but wherever, whenever, and however users prefer to work.

A useful frame for understanding the role of the reference department's online presence is to see the reference Web site as an additional branch of the library. Emerging reference tools such as federated search placed on the reference department's home page offer new services to users at their point of need. Additionally, help tools such as instructional Web sites pointed to from the reference department's online presence serve to help users understand and make use of the array of reference tools available electronically.

This chapter highlights key issues in the organization and delivery of reference and information services as they retool for the future. The first sections discuss the place, figuratively and literally, of the reference department within the library. The next section moves beyond the library to explore ways reference services can be delivered, regardless of physical arrangement. The chapter concludes with a discussion of ways to keep current and stay relevant as we meet the challenges of the digital future.

THE ROLES OF REFERENCE LIBRARIANS

Though the reference department is traditionally associated with a central information desk, reference librarians play many roles. As discussed in chapter 8, instruction is intrinsic to reference, and instructional programs are often administered by reference departments. In many instances, reference librarians serve as subject specialists and hold responsibility for collection development and faculty or community outreach. Reference departments may hold responsibility for managing collections and services such as government documents, periodicals and microforms, and interlibrary loan. In public libraries, reference librarians often manage community information and referral services, offer readers' advisory services, and organize programming. Behind the scenes, reference librarians build Web sites, work on teams that implement new systems, engage in public relations, and otherwise contribute to a wide variety of library initiatives.

The primary responsibility of the reference department, however, still derives from Samuel Green's exhortation to assist readers, even though the reference work environment has changed in ways Green never could have imagined. In recent years, libraries have stressed their role in helping users *access* information, no matter where it resides. In this paradigm, reference librarians function as intermediaries, instructors, and troubleshooters, providing a human connection between the user and sources of information, regardless of format and location.

The availability of online databases and the Internet has irrevocably altered traditional reference tools and strategies. Christen Cardina and Donald Wicks surveyed academic reference librarians to determine how their jobs have changed with the advent of the Web. They found that the "core jobs" of providing reference service to users, collection development, user education, and involvement in library initiatives have remained, but the nature of these jobs has changed. Librarians are serving users they no longer see face to face and are utilizing a far greater number of resources than were available in a print collection. The study concludes that librarians who work

BOX 11.1 POSITION OPEN

Information Access Librarian: Digitopia Public Library invites applications for the position of Information Access Librarian. As part of the Information and Research Services Team, the successful applicant will provide reference service in person and virtually, select and organize electronic resources, assist users in accessing information sources and developing information literacy, involve the library in social networking initiatives, and represent the perspective of the user in the design and implementation of access systems.

in academic libraries saw vast changes in their work environments and in what is expected of them professionally. Web publishing, virtual reference, online databases, and Google searches are all part of the reference librarian's repertoire. It is encouraging to note that despite these rapid changes, librarians responded enthusiastically and report increased job satisfaction.²

REFERENCE AS A PLACE IN THE LIBRARY

Reading Rooms, Mixing Chambers, and Information Commons

Until the advent of the Internet, reference librarians depended solely on a print collection of reference titles. Because reference books are typically consulted for specific information and do not circulate, most library buildings have traditionally designated a reference area or reading room to house these titles and provide reference service. Though digital reference sources are proliferating, an encouraging trend in the past few years has been the restoration and refitting of classic reference or reading rooms. The Library of Congress, Harvard University, the New York Public Library, and other institutions have invested considerable sums in restoring and updating these physically impressive areas. These magnificent reading rooms represent the library as a seat of learning and scholarship and as a repository of recorded knowledge. Often incorporating a time-honored print collection (e.g., many of the titles described in this book), archetypal furnishings, and wireless technology, they combine past and present with oak tables and wireless networks, with classic print titles and computer screens, to provide a space that supports individual productivity and contemplation.

The concept of a reference area is also alive and well in new library buildings, though the area may no longer be called a "reference room." The Seattle Public Library, for example, inaugurated an award-winning building that boasts a "Mixing Chamber." In this 21st-century library space, glossy metal workstations have replaced stately oak tables, but at its essence, the Mixing Chamber sounds remarkably like a reference room (see Box 11.2)

BOX 11.2 THE MIXING CHAMBER

At the Seattle Public Library,

The 19,500-square-foot Mixing Chamber is where patrons go for help with general questions or in-depth research—a “trading floor for information.”

In the Mixing Chamber, librarians are able to serve patrons as a team. Staff members are equipped with wireless communication devices, which allow them to contact librarians in the Books Spiral for additional help. Librarians have nearby access to large reference collections and online resources, as well as a dumbwaiter to quickly deliver items from the Books Spiral.

The character of the space is silvery and high tech—the ceiling is black and the floor aluminum. This floor also has the largest configuration of technology in one spot—145 computers—and is the entry to the Books Spiral. The Quick Information Center provides telephone reference service on this floor. Ask a Librarian—virtual reference service via online chat also takes place here.

Description of the Seattle Public Library’s Mixing Chamber, http://www.spl.org/default.asp?pageID=branch_central_visit_floor&branchID=1.

Though computer workstations and wireless networks are a common feature, reference rooms were originally built around a print collection and remain generally conducive to solitary research. A different vision of library space, however, is embodied in the evolving notion of the *information commons*, particularly in academic libraries. Although definitions and terminology vary—for example, permutations include “learning commons” or “scholarly commons”—the concept generally refers to a designated area that provides a variety of digital resources, productivity tools, and other technologies to facilitate both research and production. The goal is to provide a place where users can find information, utilize computing and communications technologies, and obtain a variety of services, either individually or in groups.

The information commons includes a large number of computer workstations and a team of staff, including librarians, information technology specialists, and assistants, generally in partnership with the campus computing unit. Here, reference service is provided within the context of a holistic research experience. Users can explore, learn, and create using a variety of library resources and productivity software and other IT tools.³ Ideally, writing labs, advising centers, and other student services are also collocated into an area that expands the traditional notion of information or learning—or the library.

Will the information commons replace the reference room? Librarians ignore technology at their own peril and risk becoming curators of book museums if they

do not acknowledge evolving user preferences for accessing information and modes of working. A library is conceptually and substantively different from a computer lab, but partnerships between libraries and computing centers can capitalize on the respective strengths of each. The challenge for librarians is to create spaces and services that are flexible, responsive to user needs and preferences, and faithful to the principles on which libraries have been built.

Location of Reference Services

Although the place of reference within an information commons is a relatively new concern, the question of optimally configuring reference services within the library has long been debated. Large public and academic libraries frequently provide subject-based departments, such as business, genealogy and local history, music, and science and technology. Medium-sized libraries occasionally follow this model as well. Proponents of decentralized services cite advantages to library users, arguing that the quality of reference assistance is improved because subject specialists are better equipped to provide in-depth, subject-based service. With a smaller and more homogeneous unit, librarians enjoy greater autonomy and control, and user studies have indicated a preference for more focused units of library service and small, client-centered work groups. Proponents of centralizing reference also claim advantages to library users. By providing greater efficiency and fewer referrals elsewhere, libraries are able to extend service hours; offer more consistent availability of professional staff, particularly on nights and weekends; and reduce duplication of resources. As a matter of practicality, however, budgetary constraints often serve as the primary catalyst for reducing service points.

It is interesting to note that the debate over physical service points has cooled considerably in recent years as networking has shifted emphasis from the *location* of services to the *delivery* of services. Increasing demands on library budgets, coupled with increasing demand for networked collections and services, is causing librarians to rethink their library's physical organization. The user-centered library is the ultimate goal of library design. If librarians hope to attract and retain users, they must learn how users prefer to work and organize collections and services accordingly.

The Reference Desk: Critical Mass or Trivial Pursuit?

Historically, the focal point of the reference area is a desk, staffed by one or more librarians, in proximity to a reference collection that holds many of the titles described in this book. Long a cornerstone of reference service, to many the reference desk reflects the values that Charles Bunge and Chris Ferguson identify as being core to reference librarianship: convenient and equitable service to users, individually tailored personal assistance, and high professional standards.⁴ Patricia Swanson described the reference desk as representing a "critical mass of resources—human, printed, and now electronic, so configured for a convenient and predictable location so that library patrons can find the service and can find someone to help them."⁵

Not all agree. Writing more than 25 years ago, Thelma Freides asserted that "by establishing the desk as the focal point of reader assistance, librarians not only expend professional time on trivial tasks, but also encourage the assumption that the

BOX 11.3

A GOOD USE OF PROFESSIONAL SKILLS?

“Every library that I have worked in over the last twenty-plus years has had at least one staff member grumbling about how often they have to give directions to the restroom . . . My question is this: Why grumble? This is our chance to shine, to invite people in. While it’s true that any trained monkey could point in the correct direction, I would like to believe that human beings aspire to be a bit more helpful than this. In the current economy, with declining numbers of reference transactions and dwindling budgets, every patron encounter is important.”

Lorraine J. Pellack, “First Impressions and Rethinking Restroom Questions.” *Reference & User Services Quarterly* 49 (Fall 2009): 4.

low-level, undemanding type of question handled most easily and naturally at the desk is the service norm.”⁶ Her studies of user behavior indicate that users do, in fact, perceive the reference desk as intended for quick replies. When the opportunity arises for providing detailed bibliographic assistance or research consultation, both user and librarian experience frustration when ringing phones and queues of users with short-answer questions compete for the librarian’s attention.

A review of library literature during the past two decades indicates that the desk has been the focus of much reflection. To many, it epitomizes problems with reference service: questionable use of staff expertise, dependence on a physical location, undifferentiated service, and unawareness of user needs. These critics charge that the ideal of the reference desk, staffed by competent professionals whose expertise is consistently challenged by informed library users, is elusive at best. Repetitive and routine questions, such as how to use the library catalog or, worse, how to fix a printer jam, ignore librarians’ expertise and contribute to job dissatisfaction. Some have questioned whether the reference desk makes users less self-sufficient and more dependent on library staff.

Although the necessity of a central desk staffed by librarians is best addressed within the context of individual libraries, as the next section illustrates, librarians are moving beyond discussions of furniture to meet the challenge of designing effective service models in a rapidly changing environment.

SERVICE MODELS

In designing the excellent service experience, librarians are rapidly adapting to changing practices of information access and use. A recent approach to service models in libraries of all types is the empathetic concern of designing the user experience.⁷ User experience pushes librarians to look at all elements (signage, desk

configuration, available resources) of in-person library service and all its components as well as virtual service and its components. Essentially, user experience design critiques the library's service anywhere the user interacts with any attribute of the library. The totality of in-person and virtual services produces a complete "experience" of service for the library. This next section looks at past and emerging models and the issues driving them.

In-Person Service

The holy grail of staffing a reference service is to maximize use of the librarian's expertise. One staffing model that attempts to achieve this, particularly in large public or research libraries, uses *tiered* service. Considerations underlying the notion of tiered service include optimizing the use of the librarian's time and expertise, reduction of stress and burnout, presentation of an appropriate professional image, and more efficient use of human resources. A separate service point, which may be called a help desk or information desk, staffed by paraprofessionals or students, is set up to address directional and quick-answer questions. Complex or in-depth questions are then referred to librarians at the reference desk. Ideally staffed by well-trained individuals who make informed referrals, a separate information desk, preferably near the entrance, can free librarians to focus on questions that require professional expertise.

Tiered service is not a panacea, however. Smaller libraries cannot always afford to designate separate staff and facilities for reference, let alone establish two or more service points. Experience shows that a separately staffed information desk requires a clearly defined mission and a considerable investment in training to operate successfully.⁸ Because the entire array of library resources is now available at each library desktop, it is difficult to define the limits of the assistance provided by staff at an information desk. The "simple/complex" dichotomy that once drove tiered service is increasingly blurred, and the public is rarely aware of the difference between the service points.⁹

The idea of eliminating a professionally staffed reference desk and replacing it with a *research consultation* service has received some traction, particularly in light of decreasing reference statistics. This model involves scheduling office hours or setting appointments when librarians can spend uninterrupted time working with a user to offer research assistance and targeted instruction. Although staff-intensive, research consultation takes optimal advantage of professional expertise, eliminates

BOX 11.4 ONE SIZE DOES NOT FIT ALL!

Discuss the comparative advantages and disadvantages of tiered service. Is it of primary benefit to users? To librarians? To both? Or to neither? Should librarians be divorced from routine library functions?

the competing demands that often accompany “on the fly” reference encounters, and offers librarians and users a more satisfying and productive encounter. In a much-discussed reorganization at Brandeis University Library several years ago, the reference desk was eliminated in favor of an information desk staffed by paraprofessionals and a research consultation service drawing exclusively on librarians with a combination of office hours and appointments. In an article evaluating this model, Douglas Herman concludes that the project is a “mildly qualified” success.

Though faculty and students enthusiastically endorse the consultation service, informed referrals are not always made from the information desk, and users might not have ready access to the librarians’ expertise.¹⁰ However, a more recent study, analyzing Dickinson College’s replacement of the reference desk with a consultation service, found the new service model to be beneficial to librarians as well as to users.¹¹ Other service configurations for desks include a “one desk” model whereby reference librarians answer research questions from the circulation desk; this introduces a seamless experience for the user in which one desk is a “one stop shop” for all the user’s information needs.¹² Models will depend on typology of user population as well as library size and mission. What works for a smaller public library may not find similar uptake in an academic setting of any size.

With the convergence of decreasing staff, a reduction in the number of reference questions, and virtual service (see later section), librarians will increasingly experiment with configuring their reference services in upcoming years. However it is configured, in-person reference service offers the personal assistance that most people value and provides a rich opportunity for instruction as well as research assistance as long as people are in the library. In a world of massive networked access to information and data, librarians must meet these users where they are (i.e., on campus, in the community, in cyberspace). To this end, reference librarians have ventured into “embedded librarianship” as well as cyberspace and accompanying social networking platforms as complements to traditional service.

Mobile Librarians and Embedded Service

Entrepreneurial and intrepid, reference and outreach librarians have moved outside the library building literally and virtually. Academic librarians in particular have moved beyond the desk by taking reference service to where users work. These “mobile” librarians move not only beyond the desk but also beyond the library, setting up outposts in student unions, academic departments, campus computing centers, undergraduate dormitories, and wherever their users gather or work. Reports of pilot projects by librarians from Rutgers University, University at Buffalo, and other university libraries describe these various outreach initiatives. Experiences vary, with some services in such sites as student centers and computing labs providing primarily quick-answer service, whereas others report that users indeed take advantage of the opportunity for research consultation.¹³ The common denominator of these efforts, however, is positive public relations for the library and the promotion of library research assistance to those who might otherwise be unaware of this service.

At a deeper level, Martin Kesselman and Sarah Watstein discuss the notion of the embedded librarian, who “brings the library and the librarian to the user, wherever they are . . . embedding themselves into research and learning environs.”¹⁴ These roles

BOX 11.5 EMBEDDED PUBLIC LIBRARIANS?

The literature on embedded librarians has mostly focused on academic libraries. Can public librarians be embedded as well?

include involvement in course-integrated instruction, participation in research teams, and collaboration with faculty in scholarly communication activities, and they offer exciting and professionally satisfying opportunities for librarians to share their expertise. If reference services could be plotted along a continuum, the embedded librarian represents the apex of successful outreach and user service.

Digital Reference Service

While librarians struggle to optimize service they provide to their respective communities, they are also keenly aware that large segments of their population never come through the library's doors. Digital reference service encompasses service that can be delivered at the user's point of need. This entails instant messaging (IM) reference services and SMS reference service (also referred to as a Text-a-Librarian service), as well as proprietary online chat platforms, known simply as chat. Twenty-first-century digital culture is such that most people now work and communicate primarily in front of a computer screen and spend a majority of their day connected to the online world. Digital reference service occurs online as a means to meet the needs of users where they are.

Variably referred to as *electronic*, *digital*, or *virtual* reference service, the salient feature is that communication between user and librarian takes place online. Virtual reference services developed in response to a number of interrelated factors: the ubiquitous popularity of the Internet as an avenue of communication, increasing availability of networked digital resources and the corresponding need for service, reports of decreasing numbers of in-person reference transactions, and librarians' continuing efforts to respond to user preferences. As illustrated by the number of articles and programs it has generated, virtual reference has sparked a lively discussion within the profession.¹⁵ Proponents wax enthusiastic about increased responsiveness and outreach capabilities, and opponents decry the decline of the reference interview and increased reliance on online sources. Nonetheless, librarians are increasingly embracing virtual reference, not as a substitute for traditional service, but simply as another means of reaching users. As with in-person service, however, different models of virtual service have developed in response to varying user needs, philosophies of service, and staff resources.

Asynchronous versus Synchronous

The two basic modes of digital service, asynchronous and synchronous, differ substantially in their immediacy, interactivity, and cost. Asynchronous service—that

is, service via e-mail—offers many immediate advantages. Software costs are negligible, and the medium is familiar to nearly all users of the Internet. It offers advantages to users who are less technically savvy or who use slow Internet connections. Likewise, users with limited English skills or typing skills might prefer composing at their own pace. This service works particularly well for short-answer or known-item questions: How can I reach the local Internal Revenue Service office? Does the library have any travel books on Belize? A short answer, however, does not necessarily translate to a short amount of time spent finding the answer. As librarians know, a considerable amount of time might be spent in tracking down an address, determining a death date, finding a specific poem, and so forth. Thus, from the librarian's perspective, communicating via e-mail provides an opportunity to work on a question with less time pressure, eliminates telephone tag, and lends itself well to collaborating with colleagues.

On the downside, e-mail does not lend itself well to instructing users in finding or using resources on their own, and questions received via e-mail can be maddeningly vague or open-ended. Though it is possible to engage in a reference interview through a series of e-mail exchanges and clarifications, efficiency and effectiveness can be compromised.

Synchronous reference service offers a partial solution. Though "chat" service implies a casual conversation, in its more sophisticated incarnations, it has the potential to provide a more effective communication and learning tool than e-mail. Useful as a means of humanizing and enhancing online communication, chat can facilitate collaboration between the user and the librarian, particularly through the co-browse feature. In this scenario, the librarian can share screens with users, guiding them to appropriate databases and teaching effective search strategies.

The ideal and the reality, however, are often at odds. Librarians frequently experience frustration with software performance: connections are inexplicably dropped, co-browsing or other features do not work, and users have a difficult time following what is happening. Taking a "less is more" approach, some librarians have adopted instant messaging as a medium for providing real-time reference.¹⁶ Here, librarians are taking advantage of a popular method of communicating via computer. At its most basic level, IM is considerably less sophisticated than chat software, but it offers the advantage of ease of use, speed, reliability, and negligible cost. Though this medium is not optimal for every type of question or every type of user, it offers a good opportunity for librarians to investigate real-time reference service without a significant investment in software.

In further lowering the barriers of online direct engagement with librarians, widgets can be used to create near instant communication. Chat widgets are made up of snippets of HTML code that can be dropped into a library's reference department Web page in order to connect the user directly with that reference staff's IM window. This immediacy of reference service is a new way to engage with users as they experience a service at their point of need.

Librarians are justifiably concerned with the video quality of the user's virtual experience when compared with face-to-face transactions. To that end, some librarians experiment with video chat reference service, and one pilot use is Skype reference services. Skype is a type of video conferencing service whereby librarians and users can converse over video chat, with librarians setting up video kiosks to answer

reference queries from users at a distance. Skype applications exist for the iPhone and other mobile devices such that users may be able to get nearly the same type of video service virtually as is available in person. The same network issues may arise with this service as well; that is, depending on the stability of the connection, users may get dropped, or quality may become poor if the user is on a low-bandwidth connection for video chat.

Delivering virtual reference service poses unique opportunities and challenges. Although reference librarians have long grappled with issues such as the level of service that will be offered, the clientele who will be served, the length of time spent on a specific question, how and where to staff, and user privacy and confidentiality, virtual reference brings these questions into sharper relief. When users are physically present, question negotiation and user–librarian collaboration tend to be more straightforward. In the virtual environment, however, responsibilities are more ambiguous, questions can consume significantly more time, users may have unrealistic expectations, staff levels may be too thin to consistently staff virtual reference, and transcripts potentially pose risks to user privacy. On the other hand, users appear to be enthusiastic about the service, and it is gratifying to be considered “awesome.”¹⁷ As with in-person transactions, there is no “best” way to run a virtual service, and each institution ultimately needs to establish a model and policies that work for its users.

DELIVERING VIRTUAL REFERENCE SERVICES

Staffing Models

Most reference departments take on virtual reference without a corresponding addition of staff. The challenge then becomes how to integrate virtual reference into existing services. The most common model is staffing the service from an office or other location away from the desk. Underlying this model is a view of virtual reference as a research consultation service. This configuration offers the advantages of better focus and fewer distractions and interruptions and facilitates in-depth transactions and instruction. Because the service is not place-bound, it offers the possibility for flexible staffing from a distance. The primary disadvantage is that libraries cannot always afford enough personnel to staff a separate virtual service point during all the hours that the library is open, and real-time service may thus be available only for limited hours. Although limited service hours have relatively low impact on asynchronous (e-mail) service, given that the user is not expecting an immediate answer, a schedule of limited hours can deter use of real-time service. (Some libraries have addressed this by participating in a cooperative service, which is discussed in the next section). This model can also be an inefficient use of the librarian’s time, foster greater dependence on online sources to the exclusion of the print collection, and diminish collaboration with colleagues.

A less frequently used model is staffing from the reference desk. In this model, virtual transactions are seen as just another mode of access to reference service, not unlike the telephone. An early study indicated that the majority of virtual questions are brief or known items and do not require lengthy communication.¹⁸ Thus users are offered a service convenient to their schedule and work preference. The relatively high volume of virtual users at the University of Illinois at Urbana-Champaign is very

likely due to the fact that virtual reference is available nearly all the hours the library is open.

This model works well with a team of staff at the desk, with someone on the team theoretically available to take a virtual question. It lends itself well to collaboration with colleagues and can facilitate a tiered system when paraprofessionals are used because difficult questions can be referred to the librarian on duty. Proximity to the print reference collection provides a richer pool of resources to draw upon. This is not an optimal environment for lengthy or involved transactions, however, and frequently requires multitasking on the part of the librarian. In-person users may not understand why they need to wait while a librarian types on the computer, and transactions often cannot be conducted at leisure.

Which is the right model? Just as with in-person service, the best model is the one that fits an institution's philosophy of service, user needs, and staff resources. A singular advantage to virtual reference service is that it offers an excellent opportunity for service analysis and assessment. By reviewing transcripts, reference departments can analyze who uses the service and when, what users are asking, and how well their needs are met.

Cooperative and Collaborative Reference

As librarians struggle to embrace new technologies and services, they rarely receive a corresponding increase in budget and human resources. Small libraries in particular are hard-pressed to keep up, but even large libraries cannot easily meet the challenge of 24/7 service. Consequently, librarians are finding strength in numbers and extending their participation in resource sharing to include sharing reference expertise. These cooperative ventures are further facilitated by the collaborative capabilities of most virtual reference software.

BOX 11.6 QUESTIONPOINT

The QuestionPoint service, available at www.QuestionPoint.org, provides libraries with access to a growing collaborative network of reference librarians in the United States and around the world. Library patrons can submit questions at any time of the day or night through their library's Web site. The questions will be answered online by qualified library staff from the patron's own library or may be forwarded to a participating library around the world. The service, which is available to libraries by subscription, will enable reference librarians to share their resources and expertise with each other and with their patrons free of charge in unprecedented ways.

From "Global Reference Network," <http://www.loc.gov/rr/digiref/>.

Though informal collaboration was never farther away than the telephone, the idea of institutionalizing collaborative or cooperative reference was born in the late 1990s, when the Library of Congress undertook development of the Collaborative Digital Reference Service. The purpose of the service was to build a system (including software) that capitalizes on the specific strengths of individual libraries in answering virtual questions from users from any of the participating libraries. The service has evolved and expanded and is now part of the Online Computer Library Center (OCLC) and known as QuestionPoint (see Box 11.6). This initiative is an example of one of several whereby librarians create customized consortia in which participating libraries take turns providing virtual reference to all members.

Many libraries are now involved in a cooperative reference service, particularly at a regional or state level. Examples of successful collaborative services include the Maryland AskUsNow! (<http://www.askusnow.info>) and AskColorado (<http://www.askcolorado.org/>) networks, among others. Cooperative services often afford librarians their only opportunity to venture into virtual service or enable them to extend service hours. Not all librarians, however, regard cooperative service as the course to follow. Librarians are concerned that local questions may not be effectively answered and are equally reluctant to take on questions relating to another collection or institution. Research indicates that the majority of virtual questions are “local” in that they relate to the holdings, policies, or other specific aspects of the host library.¹⁹ Supporters, however, report positive experiences and argue that with appropriate training, good communication, clear policies and procedures, and a healthy dose of trust, cooperative reference provides a win-win situation for librarians and users.²⁰

In some cases, virtual reference service is so popular that multiple chat questions occur simultaneously, and there exists a real need for a virtual reference queuing service. One such platform is the Library H3lp (<http://libraryh3lp.blogspot.com>) platform that allows a staff of reference librarians to share expertise in answering reference queries that come in virtually. This queuing service can also act as a tool to integrate disparate query sources; for example, you may want to set up your library’s Text-a-Librarian service to be answered from this interface. The ideal would be to have all virtual services configured from one shared interface to which librarians in all parts of the library would have access, not only in order to share expertise in answering queries but also as a means to share the responsibilities for staffing the virtual reference service.

Handheld Computing and Reference Service

Cell phones have widespread uptake and use, particularly among the library’s younger user population, and can be considered a ubiquitous tool for information access. Higher-end phones are essentially a type of handheld computer, offering their users profound new ways to engage with information in the world. Context-aware services offer users the ability to gain information about their surrounding environment as they experience it, delivering information to their handheld device based on where they are and what filters of information are requested. Mobile applications that

deliver this level of interactivity are emerging as an important part of the reference librarian's toolkit. Other types of handheld computing services that augment the in-person library experience are SMS tools that allow users to text the call number of their book to their phone. This service helps the user navigate the library space as they seek to obtain their identified item.

The development of SMS reference service allows librarians to answer reference questions that users ask from their cell phones. Many higher-end phones have "always on" Internet connections, and a user could be asking the library an IM question from a chat interface on his or her handheld device. Other librarians have experimented with catalog notification services delivered to the patron's cell phone by way of SMS: services that allow users to be notified at the exact moment requested books have arrived or to be notified when books they have checked out are about to be overdue. Such "just-in-time" service is the virtue of SMS services.

A useful frame for understanding handheld computing is the matrix of mediated versus unmediated service. In mediated service, the library and library staff serve as a gateway to library information by way of library resources or tools. A librarian may design a library iPhone app that acts as a chat widget or perhaps a video tour of the library. These resources are mediated by the librarian. Alternatively, the library may also have no such gateway when it comes to other types of software components for access to information. Search for information by way of mobile apps cuts out the librarian as intermediary to information and represents unmediated access to information. Every day, more and more reference sources will become available by way of these discrete software components that quickly and seamlessly deliver information to a user's personal computing device. Librarians will come to view informational apps as a new type of reference source for their user and will recommend them accordingly.

KEEPING CURRENT, STAYING RELEVANT

With rapidly evolving technologies and increasing user expectations, how can librarians hope to keep pace and remain relevant? Fortunately, an ever-increasing number of professional outlets help keep librarians current. Through the work of committees and discussion groups of the Reference and User Services Association of the American Library Association (<http://www.ala.org/ala/mgrps/divs/rusa/>), librarians can keep current on hot topics. Professional literature abounds with articles relevant to reference services, particularly the journals *Reference & User Services Quarterly*, *Reference Services Review*, and *Internet Reference Services Quarterly*. Various Web resources provide an excellent means of learning the latest applications and keeping current (see Box 11.7).

Although the challenges of the future may appear daunting, to paraphrase Mark Twain, reports of the death of reference are greatly exaggerated. As reference librarianship enters its second century, reference librarians are providing "personal assistance to readers" both within the library and far beyond library walls and are embracing new technologies as they retain traditional values. If extinction results from an inability to adapt to a changing environment, reference librarians have no cause to worry.

BOX 11.7 WEB SITES, BLOGS, WIKIS, AND APP STORES

Web Sites

Virtual Reference Desk: Resources related to virtual reference and conference proceedings from the Virtual Reference Desk conferences (<http://www.webjunction.org/52>).

Current Cites: An annotated bibliography of selected articles, books, and documents on information technology (<http://lists.webjunction.org/currentcites/>).

Blogs

Digital Reference: A forum for discussion of all aspects of digital reference service. (<http://www.stephenfrancoeur.com/digitalreference/>).

Wikis

Library Success Wiki—Reference Services and Information Literacy: An openly edited source on staying current with reference service delivery (http://www.libsuccess.org/index.php?title=Main_Page#Reference_Services_and_Information_Literacy).

App Stores

iPhone app store—Periodically browse the reference apps to learn how traditional reference tools combined with user location help to meet users information needs as they experience their surrounding environment (<http://www.apple.com/iphone/apps-for-iphone/>).

Android Marketplace—Another online app store that can offer free access to information that traditionally has been the domain of the reference librarian (<http://market.android.com/>).

NOTES

1. Jeannette Woodward, *Creating the Customer-Driven Library: Building on the Bookstore Model* (Chicago: American Library Association, 2005), 234 pp.
2. Christen Cardina and Donald Wicks, "The Changing Roles of Academic Reference Librarians Over a Ten-Year Period," *Reference & User Services Quarterly* 44 (Winter 2004): 133–42.
3. For additional discussion, see "Information Commons" in *The Encyclopedia of Library and Information Science*, 3rd ed., ed. Marcia J. Bates and Mary Niles Maack (Boca Raton: CRC Press, 2009), 2401–8.
4. Charles Bunge and Chris Ferguson, "The Shape of Services to Come: Values-Based Reference Service for the Largely Digital Library," *College & Research Libraries* 58 (May 1997): 258.

5. Patricia K. Swanson, "Traditional Models: Myths and Realities," in *Academic Libraries: Myths and Realities: Proceedings of the Third National Conference of the Association of College and Research Libraries* (Chicago: American Library Association, 1984), 89.
6. Thelma Freides, "Current Trends in Academic Libraries," *Library Trends* 31 (Winter 1983): 466–67.
7. Aaron Schmidt, "The User Experience," *Library Journal* 135, no. 1 (2010): 28–29.
8. Beth S. Woodard, "The Effectiveness of an Information Desk Staffed by Graduate Assistants and Non-Professionals," *College & Research Libraries* 50 (July 1989): 455–67.
9. Pixie Ann Mosley, "Assessing User Interactions at the Desk Nearest the Front Door," *Reference & User Services Quarterly* 47 (Summer 2007): 159–67.
10. Douglas Herman, "But Does It Work? Evaluating the Brandeis Reference Model," *Reference Services Review* 22 (Winter 1994): 17–28.
11. Theresa Arndt, "Reference Service without the Desk," *Reference Services Review* 38, no. 1 (2010): 71–80.
12. Janet Crane and Jeanne A. Pavy, "One-Stop Shopping: Merging Service Points in a University Library," *Public Services Quarterly* 4, no. 1 (2008): 29–45; Pat Flanagan and Lisa R. Horowitz, "Exploring New Service Models: Can Consolidating Public Service Points Improve Response to Customer Needs?," *Journal of Academic Librarianship* 26, no. 5 (2000): 329–38.
13. See, for example, Triveni Kuchi, Laura Bowering Mullen, and Stephanie Tama-Bartels, "Librarians without Borders: Reaching out to Students at a Campus Center," *Reference & User Services Quarterly* 43 (Summer 2004): 310–17; A. Ben Wagner and Cynthia Tysick, "Onsite Reference and Instruction Services: Setting Up Shop Where Our Patrons Live," *Reference & User Services Quarterly* 46 (Winter 2007): 60–65.
14. Martin Kesselman and Sarah Watstein, "Creating Opportunities: Embedded Librarians," *Journal of Library Administration* 49 (2009): 383.
15. The literature on digital reference service, particularly real-time services, is extensive. See the Virtual Reference site for links to many resources: <http://www.webjunction.org/52>.
16. See, for example, Marshall Breeding, "Instant Messaging: It's Not Just for Kids Anymore," *Computers in Libraries* 23 (November/December 2003): 38–40.
17. Jo Kibbee, David Ward, and Wei Ma, "Virtual Service, Real Data: Results of a Pilot Study," *Reference Services Review* 30 (February 2002): 25–36.
18. *Ibid.*, 35.
19. Theresa Berry, Margaret Casado, and Lana Dixon, "The Local Nature of Digital Reference," *Southeastern Librarian* 51 (Fall 2003): 8–15.
20. Thomas A. Peters, "E-Reference: How Consortia Add Value," *Journal of Academic Librarianship* 28 (July 2002): 248–50.

ADDITIONAL READINGS

Bailey, Russell, and Barbara Tierney. "Information Commons Redux: Concept, Evolution, and Transcending the Tragedy of the Commons." *Journal of Academic Librarianship* 28 (September 2002): 277–86.

Bailey and Tierney review the concept of the information commons and describe its administrative and functional integration into an academic library, highlighting the role of the "enhanced" information desk.

Cardina, Christen, and Donald Wicks. "The Changing Roles of Academic Reference Librarians over a Ten-Year Period." *Reference & User Services Quarterly* 44 (Winter 2004): 133–42.

This study assesses the changes that occurred in academic reference librarians' job responsibilities from 1991 to 2001. The authors describe how various reference responsibilities changed over a 10-year period, as did the relative amount of time spent on various activities. The article concludes with a list of traditional as well as newly developed duties of reference librarians.

Ferguson, Chris. "Reshaping Academic Library Reference Service: A Review of Issues, Trends, and Possibilities." *Advances in Librarianship* 18 (1994): 73–109.

Though written in the mid-1990s, this article by Ferguson provides an excellent overview of the issues fueling the debate on the theory and practice of reference services in academic libraries. Beginning with an anatomy of the "crisis" in reference, Ferguson examines factors such as funding, the impact of technology, organizational structures, quality of service, and burnout—all of which call into question the efficacy of the traditional model. He concludes with a prediction that future libraries will see a more fully integrated and user-centered service.

Gray, Suzanne M. "Virtual Reference Services: Directions and Agendas." *Reference & User Services Quarterly* 39 (Summer 2000): 365–75.

Gray discusses issues librarians grapple with in providing virtual reference service, including traffic from nonaffiliated users, response time, optimal service hours, and service evaluation.

Hahn, Jim. "Mobile Learning for the Twenty-First Century Librarian." *Reference Services Review* 36 (2008): 272–88.

A literature review of mobile computing initiatives in public, academic, and special libraries offers a picture of library services for the 21st century by drawing on human-computer interaction papers and approaches from medical libraries.

Janes, Joseph. *Introduction to Reference Work in the Digital Age*. New York: Neal-Schuman, 2003. 213 pp.

Engagingly written, this introductory text provides an excellent overview of the current state of reference services, with a clear articulation of the advantages, as well as the challenges and limitations, of serving users remotely.

"Reference in the (post)Google Age." *Reference Services Review* 38, no. 1 (2010).

This important theme issue includes a variety of articles focused on creating an optimal reference environment, including issues such as research consultations, reference without a desk, and social networking.

Rieh, Soo Young. "Changing Reference Service Environment: A Review of Perspectives from Managers, Librarians, and Users." *Journal of Academic Librarianship* 25 (May 1999): 178–86.

This article examines changes in the traditional reference desk model, with a focus on integrating and maximizing users' information-search processes and librarians' intervention.

"Symposium on Reference Service." *Journal of Academic Librarianship* 21 (January 1995): 3–16.

Leading off with the provocative article "Is Traditional Reference Service Obsolete?," followed by four responses, this series of essays calls into question the notion of "reference

librarians answering questions at a reference desk.” Evolving responsibilities include the design of user-friendly retrieval systems, negotiation of complex automated reference environments, and continued human mediation.

Tyckoson, David A. “What Is the Best Model of Reference Service?” *Library Trends* 50 (Fall 2001): 183–96.

Tyckoson reviews models of reference service in the context of the professional values they reflect. He compares and contrasts the traditional desk model with the teaching-library model, tiered service, and virtual service and concludes that there is no “right” model.